ū
I
اً الح
ı
: ===
: []
H
1
:₫
ij
,===

7	41	7 1.	A method of merging images of segments of a view, comprising:
	2	1	receiving a first image representing a first segment of the view and a second image
	3		representing a second segment of the view from a remote location over a network;
	4		determining the position of the second segment of the view relative to the first
	5		segment of the view;
	6		blending the first image with the second image based on the determined position of
	7		the second segment relative to the first segment to merge the first image and the second
	8		image into a panoramid image of the view; and
	9		transmitting the panoramic image over the network;
	10		wherein the step of determining the position and the step of blending are performed
the state of the s	11		without positioning information from a human operator.
		•	
	1	2.	The method of claim 1 further comprising:
j	2		determining whether the second image overlaps the first image based on the position
= =	3		of the second segment relative to the first segment, wherein the blending the first image
=	4		and the second image is only performed when the second image overlaps the first image.
1	4	2	The method of claim 1 further comprising:
1	1	3.	
1	2		correcting perspective distortion in the second image relative to the first image prior
	3		to blending the first image with the second image.
	1	4.	The method of claim 1 wherein blending the first image with the second image includes:
	2		dividing the second image into a first portion and a second portion, based on the
	3		position of the second segment relative to the first segment;
	4		compositing the first portion of the second image on the first image at the relative
	5		position of the second segment relative to the first segment to produce the panoramic
	6		image, the compositing of the first portion of the second image causing the first portion to
	7		mask out a part of the first image.
	•		mant out a part of the linest.

SJP 7

5

6

7

8

9

10

11

12

13

1

2

3

1

2

3

4

5

6

1

2

3

4

5

6

A method of merging images of segments of a view, comprising:

retrieving a set of images representing a view including a first image representing a first segment of the view, a second image representing a second segment of the view, and a third image representing a third segment of the view;

determining a first position of the second segment of the view relative to the first segment of the view

determining a second position of the third segment relative to the first segment of the view and a third position of the third segment relative to the second segment of the view;

checking whether the first image overlaps the third image more than the second image overlaps the third image, based on the second position and the third position;

if the first image overlaps the third image more than the second image overlaps the third image, blending the set of images based on the first position and the second position.

6. The method of claim 5 further comprising:

correcting perspective distortion in a least one of the set of images prior to blending the set of images.

7. The method of claim 5 further comprising:

prior to blending the set of images:

determining a central one and peripheral ones of the set of images based on the first and second positions; and

correcting perspective distortion in a first peripheral one of the images relative to the central one of the images.

8. The method of claim 7 further comprising:

prior to correcting perspective distortion in the first peripheral one of the images:

determining overlap areas between the central one and each of the peripheral ones of the set of images, based on the first and second positions;

selecting the first peripheral one of the images to maximize the overlap area between the central image and the first peripheral one of the images.

9

	\	
1	9. The method of claim 8 further comprising:	
2	prior to blending the set of images:	
3	determining a first overlap area between a second one of the peripheral im	ages
4	and the central one of the images;	
5	determining a second overlap area between the second one of the peripher	al
6	images and the first peripheral one of the images;	
7	if the first overlap area is greater than the second overlap area, correcting	
8	perspective distortion in the second one of the peripheral images relative to the central	.1
9	one of the images.	
1	10. The method of claim 9 further comprising:	
2	prior to blending the set of images:	
3	if the first overlap area is less than the second overlap area, correcting	
4	perspective distortion in the second one of the peripheral images relative to the first	
5	peripheral one of the images.	
1	11. The method of claim 5, wherein blending the set of images further includes:	
2	dividing the second image into a first portion and a second portion, based on the f	irst
3	position;	
4	compositing the first portion of the second image on the first image at the first	
5	position to produce a composite image; the compositing causing the first portion to m	ask
6	out a part of the first image;	
7	blending the third image with the composite image to form the panoramic image.	
1	12. The method of claim 11 wherein blending the third image with the composite image	
2	further includes:	
3	dividing the third image into a third portion and a second portion, based on the sec	cond
4	position;	
5	dividing the third portion into a fifth portion and a sixth portion, based on the third	Ĺ
6	position; and	
7	compositing the fifth portion of the third image on the composite image based on	the
8	second position to form the panoramic image, the compositing of the fifth portion cau	sing

the fifth portion to mask out a part of the composite image.

	1	
	Ð	
ELECTOTA	ΙΠ	
	J	
	-	
	: 🗖	
	22	
	H	
J		
Į	: 🖸	
3	IД	
j		

1	13. A method of merging images of segments of a view, comprising:
2	transmitting a first image representing a first segment of the view to a server;
3	transmitting a second image representing a second segment of the view to the server
4	without providing any information about the position of the second segment relative to
5	the first segment; and
6	receiving a panoramic image of the view from the server, the panoramic image being
7	a composite of the first image and the second image.
1	14. The method of claim 14, wherein the first image is transmitted from a first computer and
2	the second image is transmitted from a second different computer.
1	15. An article comprising a computer-readable medium on which are tangibly stored
2	computer-executable instructions for merging images of segments of a view, the stored
3	instructions being operable to cause a computer to:
4	receive a first image representing a first segment of the view and a second image
5	representing a second segment of the view from a remote location over a network;
6	determine the position of the second segment of the view relative to the first segment
7	of the view;
8	blend the first image with the second image based on the determined position of the
9	second segment relative to the first segment to merge the first image and the second
10	image into a panoramic image of the view; and
11	transmit the panoramic image over the network.
1	16. The article of claim 16 wherein the instructions that determine the position and blend the
2	first and second images operate without positioning information from a human operator.
1	17. The article of claim 16 wherein the stored instructions further comprise instructions
2	operable to cause the computer to:
3	determine whether the second image dverlaps the first image based on the position of
4	the second segment relative to the first segment, wherein blending the first image and the
5	second image is only performed when the second image overlaps the first image.

1

2

3

4

5

6

7

2

3

5

6

7

8

9

10

11

12

13

14

1

2

3

4

/ P422

correct perspective distortion in the second image relative to the first image prior to blending the first image with the second image.

19. The article of claim 6 wherein blending the first image with the second image includes:

dividing the second mage into a first portion and a second portion, based on the position of the second segment relative to the first segment;

compositing the first portion of the second image on the first image at the relative position of the second segment relative to the first segment to produce the panoramic image; the compositing of the first portion of the second image causing the first portion to mask out a part of the first image.

An article comprising a computer-readable medium which stores computer-executable instructions for merging images of segments of a view, the instructions being operable to cause a computer to:

retrieve a set of images representing a view including a first image representing a first segment of the view, a second image representing a second segment of the view, and a third image representing a third segment of the view;

determine a first position of the second segment of the view relative to the first segment of the view;

determine a second position of the third segment relative to the first segment of the view and a third position of the third segment relative to the second segment of the view;

check whether the first image overlaps the third image more than the second image overlaps the third image, based on the second position and the third position;

if the first image overlaps the third image more than the second image overlaps the third image, blend the set of images based on the first position and the second position.

21. The article of claim 21 wherein the stored instructions further comprise instructions operable to cause the computer to:

correct perspective distortion in at least one of the set of images prior to blending the set of images.

1	22. The article of claim 21 wherein the stored instructions further comprise instructions
2	operable to cause the computer to:
3	prior to blending the set of images:
4	determine a central one and peripheral ones of the set of images based on the
5	first and second positions; and
6	correcting perspective distortion in a first peripheral one of the images relative
7	to the central one of the images.
1	23. The article of claim 23 wherein the stored instructions further comprise instructions
2	operable to cause the computer to:
3	prior to correcting perspective distortion in the first peripheral one of the images:
4	determining overlap areas between the central one and each of the peripheral
5	ones of the set of images, based on the first and second positions;
6	selecting the first peripheral one of the images to maximize the overlap area
7	between the central image and the first peripheral one of the images.
1	24. The article of claim 24 wherein the stored instructions further comprise instructions
2	operable to cause the computer to:
3	prior to blending the set of images:
4	determining a first overlap area between a second one of the peripheral images
5	and the central one of the images;
6	determining a second overlap area between the second one of the peripheral
7	images and the first peripheral one of the images;
8	if the first overlap area is greater than the second overlap area, correcting
9	perspective distortion in the second one of the peripheral images relative to the central
10	one of the images.
1	25. The article of claim 25 wherein the stored instructions further comprise instructions
2	operable to cause the computer to:
3	prior to blending the set of images:
4	if the first overlap area is less than the second overlap area, correcting
5	perspective distortion in the second one of the peripheral images relative to the first
6	peripheral one of the images.

3

4

5

6

7

1

2

3

4

5

6

7

8



1 26. The article of claim	m 🔃 wherein	blending the	images further	includes:
----------------------------	-------------	--------------	----------------	-----------

dividing the second image into a first portion and a second portion, based on the first position;

compositing the first portion of the second image on the first image at the first position to produce a composite image; the compositing causing the first portion to mask out a part of the first image;

blending the third image with the composite image to form the panoramic image.

27. The article of claim 27 wherein blending the third image with the composite image further includes:

dividing the third image into a third portion and a second portion, based on the determined second position;

dividing the third portion into a fifth portion and a sixth portion, based on the determined third position; and

compositing the fifth portion of the third image on the composite image based on the second position to form the panoramic image, the compositing of the fifth portion causing the fifth portion to obstructs at least a part of the composite image.

